IDENTIFICATION OF THE BRAIN HEMISPHERIC DOMINANCE OF UiTM STUDENTS USING EEG

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ABSTRACT

The purpose of this study is to identify the brain hemispheric dominance of UiTM students using EEG. It is a study that will compare the usage of the brain used by students from different field of study background. The study has been made on students from the electrical engineering faculty (FKE) of UiTM Shah Alam and also on the students from the faculty of technology creative and artistic (TEKA) of UiTM in Puncak Perdana. Entirely, there are 30 samples all together, 15 of them are from the electrical engineering faculty and the other 15 are from the technology creative and artistic faculty. The comparison between these two faculties was made on the overall maximum value of both hemispheric side of the brain, the BETA maximum value and also on the results obtained from the questionnaire. To acquire the EEG data from the samples, a three minute EEG data reading on the brainwave needs to be done on each sample. In conclusion to this study, from the obtained results, it is evidently that students from engineering background has a dominance of the left hemisphere of the brain and students from the arts background has a dominance of the right hemisphere of the brain

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CHAPTER 1

Introduction

1.1 BACKGROUND OF STUDY

The purpose of this project is to identify the brain hemispheric dominance of UiTM students. It is believed that it is important for students who attempt to enroll into higher education institutions to identify which part of their brains is more dominant. This project intends to scientifically prove that students which come from an art background use their right hand side of the brain more than their left side of the brain. And students with engineering background use less of their right side of the brain as compared to their left. A person who is said to be creative usually have a right brain dominance, and meanwhile for a person who is more to logical thinking usually have a left brain dominance. As the attributes left and right hemispheres of the brain are different, this study will assist students to determine what program that suits them best. This will allow the students to gain insight into their thinking style and are able to formulate their learning strategies. The data will be collected using the EEG. The results of the overall maximum value, the maximum value of BETA and the results obtained from the questionnaire is taken into account. The reason of why an analysis was only made on the BETA wave is to observe that, when a sample is in an idle state, which hemispheric side of the brain has a larger reading of the BETA wave as the BETA is associated to the alertness of a person and also when a person is in a concentrating state of mind. The value will indicate whether a sample has right or left hemisphere dominance. 30 human samples were used to collect the brainwave data, 15 from them were taken from the electrical engineering faculty and the other 15 were taken from the arts faculty.